Attachment C
DWD Federal Reporting System Scope of Work

The goal of this project is to continue work on, and work in support of, the DWD Federal Reporting System (InTERS), however DWD does not wish to create or continue on a path with technical lock in to a platform or vendor. The vendor will be responsible for ongoing new component software development, implementation and training, and maintenance and support of existing component software systems and associated hardware systems. The vendor shall comply with all Indiana Office of Technology (IOT) standards, policies, and guidelines, which are online at http://www.in.gov/iot/2394.htm. All hardware, software, and services provided to or purchased by the State shall be compatible with the principles and goals contained in the electronic and information technology accessibility standards adopted under Section 508 of the Federal Rehabilitation Act of 1973 (29 U.S.C. 794d) and IC 4-13.1-3. Compatibility can be confirmed by submitting a Voluntary Product Accessibility Template (VAPT) if already available, or by completing the Assistive Technology Compliance Evaluation Form available in Attachment D. Vendor will be expected to come up to speed and provide technical support on this component and all others listed here within thirty (30) days of full contract execution.

The DWD Federal Reporting System consists of an entire ecosystem of locations, users and systems. The DWD Federal Reporting System for the 2010-2011 fiscal year consists of the following existing components:

- InTERS Desktop Software
- Teacher Enrollment Website
- Auto Update Web Service
- Universal Import Utility
- Federal Reporting Web Client/Server Software
- InTERS Synchronize Client/Server Software
- Central Transfer Server Data Warehouse
- Remote Desktop Support Solution
- Help Desk Support Site
- Third Line Technical Support
- Training of DWD Staff

The DWD Federal Reporting System for the 2010-2011 fiscal year has the following components planned for implementation:

- InTERS Web Client
- Web Import for Local Student Management Systems
- Central Server Integration with DOE Databases
- Postsecondary Web Client
- InTERS Integration with Adult Basic Education Federal Data Reporting

A major secondary goal of the contract; stated up front, and in full view of the awarded vendor of this contract, is the eventual significant reduction in ongoing costs associated with system support and maintenance. The vendor will be tasked with implementing and designing the systems outlined in the main portion of this scope of work in such a manner as to reduce costs.

Examples of vendor cost reduction are in technical support and training. The vendor provides third line technical support, and for each support item that passes to the vendor, the vendor should in turn train DWD staff to handle that type of support item in the future.

Also, the tools that the vendor uses to diagnose problems should be provided to DWD staff with proper training, so DWD staff can begin to provide the same associated services as vendor in third line technical support.

Ongoing development is another major source targeted for cost reduction. The design goal of the current web-based clients (InTERS, Fed Report, etc.) is to move as much business logic onto the SQL server side of the equation as possible. In moving the logic and associated programming code logic to the SQL Server, DWD staff can be trained as SQL Server database administrators and SQL programmers. With this training, DWD staff can make changes and additions to the software as desired without vendor intervention. DWD staff will be trained in the design and creation of reports as well as their integration into the InTERS web client. The majority of software development tasks with the current systems that are not characterized as bugs are report creation and modification requests.

The top two technical support issues facing the DWD staff are patch deployment (onsite database updates) and data synchronization from the onsite database to the Central Internet Database server. The deployment of InTERS as a web client *completely* removes these areas from the system. There are no further patches or updates necessary to send to the end users, all updates are made centrally and since all the end users connect to the central server, they instantly receive the updates in business logic (from a database point of view.) And since there is no database deployed at the end users sites (districts), there is absolutely no need for the data synchronization sub-systems.

1) <u>Existing Deliverables:</u> DWD requires that an Oracle database be used for all new development, and that existing component data be converted to Oracle.

<u>Description of DWD Federal Reporting System Components:</u>

a) InTERS Desktop software

The InTERS Desktop software is the core of the ecosystem. The InTERS Desktop software is deployed at each of the school districts throughout Indiana. Each district can use anywhere from 1 to 70 instances of InTERS. InTERS is written in Visual Basic .NET. The vendor will be responsible for ongoing software maintenance to support issues (bugs) found in the software. New features may be requested by users, and the vendor will have to provide design and implementation. The InTERS desktop currently consist of over 1070 VB source files and 440 report designer objects. The InTERS Desktop software is at an end of life stage, the software will be replaced by the new Web-Based client; however maintenance and new features will be required until the end of the school year (June 2011). Any features additions or changes to the InTERS client will need to be well documented and implemented in the new web based client. The new web-based client makes heavy use of the existing business logic and rules implemented in the current InTERS client, a thorough understanding of the current system (even in its end of life stage) is essential to success of the web-based project. Vendor will be responsible for technical support via email and phone for DWD staff as end users encounter problems. The existing vendor is currently in development of new features and bug fixes to the software, the new vendor will need to take over all development on open issues. Updates to the software need to be packaged in shrink wrap style "install" packages. Each quarter the current update is rolled into a new "full" install for new machines.

b) *Teacher Enrollment Website*

The Teacher Enrollment Website is an HTML based application used by the local end users in each district to enter student enrollment data without the use of the full InTERS desktop client. The website consists of a login page and an editable grid component that displays the current student class list from the central database server to the user. The user may add, edit or delete students via this interface. The Teacher Enrollment Website is at an end of life stage, the software will be replaced by the new Web-Based client; however maintenance and new features will (may) be required until the end of the school year (June 2011). Vendor will be responsible for hosting the Teacher Enrollment Website, and allowing it access to the central database warehouse.

c) *Auto Update Web Service*

As the InTERS client software is updated, those updates need to be fed downstream to the end users at the schools. The Auto Update Web Service is a VB.NET web service existing on the central transfer web server. The InTERS client is coded to check the Auto Update Web Service every 30 minutes for updates and if an update is found, the InTERS client will download the new update and install. The Auto Update Web Service is planned for a design change, where the service also automatically updates the database on an object by object basis when updates are applied. Currently the patch runs a cumbersome and long SQL change script to modify database server objects. Updates must be all inclusive as it is not guaranteed what version a given client is running when they attempt to update. Vendor will be responsible for hosting the Auto Update Web Service, and maintaining regular updates for the client software.

d) *Universal Import Utility*

The Universal Import Utility is a utility that takes export files from external Student Management Systems and imports them to the InTERS database. The utility has several components that are no longer necessary based on user feedback and current desired usage. The utility was originally intended to be a bidirectional import/export utility; however users have stated that only import is necessary. Also, the feature allowing a universal, almost limitless freeform template structure had proven cumbersome for the end users. The Universal Import Utility will be replaced with a new set of functions built into the web-based client. The new functions will be designed around a single fixed template structure. The user interface will also be reengineered as a step-by-step wizard interface. This allows the users to be guided in an easy to follow fashion though the import process. End user training on the import utility has proven difficult for DWD staff. Design prototypes can be found in the InTERS web-based demo. See the Web Import for Local Student Management Systems section below.

e) *Federal Reporting Web Client/Server Software*

The Federal Reporting system is a recent addition to the InTERS space. The system replaces the Oracle system implemented internally by DWD. The new Federal Reporting system is implemented in the same design style as the web-based InTERS client. The front end is developed as a thin windows client, and the back-end is a windows web server web service. This interface design runs well for DWD staff. Vendor will be expected to continue with routine changes and additions to the numerous federal reports. DWD is expected to report to the Federal government

once a year on all performance indicators. Vendor must be responsive to changes and timelines as necessary to capture and generate the reports as they are delivered. Data submission formats may change and may require manual incorporation into the federal reports database structure. Vendor will be responsible for hosting the Federal Reporting server, and allowing it access to the central database warehouse.

f) *InTERS Synchronize Client/Server Software*

The current InTERS desktop client/database server houses data at each of the 48 area Career and Technical Education districts. Each set of district data must be brought to a central location and integrated into a single dataset. The InTERS Synchronize Client/Server system acts as a SQL replication system, moving the database records between the disparate systems based on record update time stamps. The data replication scheme is complex, and relies on location based IDs to determine the correct data sent/received at each site. Data records must not be allowed to cross districts as end users may modify or delete data that is nor perceived as their own. Heavy use of SQL stored procedures are implemented to offload CPU intensive tasks to the central server. The sync system is implemented as a web-based client connected to a HTTP web service. Vendor will be responsible for hosting the InTERS Synchronize server, and allowing it access to the central database warehouse.

g) *Central Transfer Server Data Warehouse*

All the component systems described above interact with a centralized database based on the same dataset as the InTERS desktop client. This database is currently hosted using Microsoft SQL Server 2008. All central server systems need access to this database; however security is a priority based on the nature of the data sets stored therein. The database is very large and data consistency is of critical importance. As the different component system all dump or read data from the central database, the logical nature of that data needs to be kept constant. Loss of data translates to both incorrect federal reporting data (and a possible loss in federal funding) and invalid data sent to schools where reporting to the students may damage educational guidelines. Vendor will be responsible for maintaining the database integrity while it is hosted on State servers.

h) *Remote Desktop Support Solution*

The DWD staff will act as first line tech support. The number one tool used to diagnose problems at remote locations throughout the state is a system allowing remote access to end user's PC. Currently a system from Bomgar is used to allow a firewall agnostic way to attach to the end users. The remote support solution needs to be as simple for the end users as possible. DWD staff has no control and limited access to the computers deployed at the end user's workstations. Most local IT administrators have provided end users with limited access Windows accounts, thus a simple, effective and foolproof system is required. DWD staff has expressed great satisfaction with the current Bomgar implementation. The vendor may be expected to continue using the Bomgar system as well as providing the maintenance for this system. Vendor will provide any software and hardware required for the chosen system.

i) Help Desk Support Site

Vendor will provide a help desk web site designed to act as central point of access for change requests and bug reports on ALL component systems. The help desk should support submissions by end users, with automated ticketing and receipts so end users can track their submissions. This system should allow the data entered as result of the tickets to be aggregated and used to setup a wiki style reference system to alleviate future submissions. The system will be accessed by DWD staff, project administrators and programming resources. The currently implemented system is based on the Fogbugz Project Management System.

Discuss your help desk service levels and indicate whether fees are reduced if service levels are not met.

j) Third Line Technical Support

DWD staff acts as the first line of tech support for the end users of the system, however any support issues DWD staff is unable to handle, the vendor will be responsible for. As new support issues are taken care of by the vendor. Vendor will be responsible for training DWD staff to handle the issues in the future. A support representative from the vendor must be available on a 24x7 basis for DWD staff support issues.

k) Training of DWD Staff

DWD staff will need to be kept up to speed with the current state of the software, new features, bug fixes, support resolutions and upcoming implementations. Vendor will setup a constantly updating structure for training DWD staff. This training will be done via a remote/web based solution.

2) New Deliverables: DWD requires that an Oracle database be used for all new development, and that existing component data be converted to Oracle.

a) InTERS Web Client

During the 2010-2011 contract year, vendor will be responsible for implementing a web-based solution for the InTERS desktop client system. This web-based solution will be the building blocks for the Postsecondary (outlined below) project. All of the business rule objects found in the foundation of the InTERS desktop client will be migrated to web-based solution, reuse of these objects will reduce cost and associated resource effort. A complete knowledge of the current InTERS business rules is essential to the proper and prompt development of this component. The web-based solution solves several outstanding problems for DWD including data integrity and technical support (as detailed in other parts of this document.) The current design for the web-based client calls for a thin-client Windows based executable (similar to a java client running in a web browser) that connects via a securely encrypted web service to a server running a business logic server (middle tier) connected to the central SQL server database (backend). The use of the thin client on the front end allows the end user to enjoy the most advanced and seamless graphical user interface experience. The middle tier is abstracted from the client, and provides a robust set of business logic components that can be called from any type of client application. The use of this secure middle tier allows the future creation of clients hosted on (for example) iPhones, HTML web pages, and Apple or Linux systems. The back end of the system is an Enterprise version of MS SQL Server 2008.

This abstraction in the system will make it very easy for DWD to interact with external systems from different departments. DWD can publish a set of these standard interfaces (of the middle tier), and other departments can attach to these interfaces and send and receive data from DWD databases. In this manner, DWD can become more of a clearing house of data for different departments.

b) *Web Import for Local Student Management Systems*

The Web Import for Local Student Management Systems project is a replacement for the current Universal Import Utility. Originally designed as a one size fits all bidirectional system, the current Universal Import Utility only support imports of student enrollment records from external student management systems (such as SASI). The local school end users have expressed no interest in having the full original design features implemented. In fact, the design was reduced due to the complexity of importing student enrollments from disparate external systems. The current utility imports from a limited number of data sets, from a set Microsoft Excel template worksheet. The new Web Import utility will be designed as a "Wizard", stepping the end user through the import process, from a predefined template. The goal is to reduce the complexity of the import, thereby reducing associated technical support and training. This component is currently in the design phase, with an expected completion date of September 2010.

c) *Central Server Integration with DOE Databases*

In an effort to reduce the amount of data entered by the local end users, as well as increase the accuracy of that data, DWD is currently in talks with various departments in IDOE to obtain copies of the raw data used by DOE for reporting. This data includes STNs, ISTEP scores, post-graduation data, student characteristic data, and other markers. As access to these data sets is achieved, the vendor will be responsible for aggregating and importing this data into the core InTERS database.

d) *Postsecondary Web Client*

DWD is also responsible for reporting statistics on Post Secondary Institution enrollment data. Currently this data is compiled by CHE (Commission for Higher Education and forwarded to DWD as a single flat file. The CHE data only contains public institutional data, and the scope of students now extends to private/external institutions. DWD will be responsible for collecting this private/external post secondary data directly. A Postsecondary Web Client is required to collect all the same data as currently exists (tables, fields, etc.) in the Federal Reporting Post Secondary database. (See the section entitled "Federal Reporting Web Client/Server Software" above.)

The Postsecondary Web Client interface will need to be built from the ground up and contain entry and maintenance screens for all Post Secondary data. The client will need entry screens, maintenance screens, a rapid entry area, and multiple reports. An import mechanism will also be explored. In addition, a methodology for combining the current CHE provided flat data with the new private Post Secondary data will need to be designed with long term integration in mind.

e) InTERS Integration with Adult Basic Education Federal Data Reporting

The goal of this project is to expand the InTERS system to capture additional data elements to support the Adult Basic Education (ABE) Federal reporting requirements and to allow ABE in Indiana to have meaningful reliable data.

The existing ABE data reporting system is unable to meet the current Federal reporting requirements. Data consistency is the top issue surrounding the current system. The InTERS system already contains the majority of the data elements necessary for the ABE implementation. The addition of the ABE data elements missing "from InTERS" "to InTERS" is a much smaller project then implementing a full system to replace ABE's. The delta between the projects is much smaller when factoring in the data warehousing and tech support requirements.

In an effort to provide the most effective system, with data consistency as the main requirement, the system will be implemented as a Web Based application (which is a Federal requirement). As a Web Based application, the local districts and schools will utilize a small client application that communicates with the centralized InTERS database. In this configuration there will be only a single database, thus removing any data inconsistency between multiple databases. Data loss due to multi-site synchronization, as found in the past, will also be eliminated.

The InTERS system development roadmap currently contains plans to implement the system as a Web Based application. With the addition of the ABE project, the timeline of the roadmap will be altered. The selected features necessary to support the ABE system will be implemented immediately, along with the required additional data elements. The use of the central data servers in operation for InTERS located at the Internet data center will reduce the deployment time compared against developing a brand new comparable system.

There will also need to be a few additional web interface screens so that users in off-site locations can enter basic student information into the ABE database.

The National Reporting System for Adult Education (NRS) as administered by the Division of Adult Education and Literacy in the Office of Vocational and Adult Education at the U.S. Department of Education (http://www.nrsweb.org/) has guidelines for implementations of data collection and aggregation systems. Vendor is responsible for reviewing and assuring the new system, as combined with InTERS, meets or exceeds the guidelines provided by NRS. Vendor should review the following documentation at a minimum:

- Attachment C - **Exhibit A, Additional Points for Data System**

- http://www.nrsweb.org/docs/ImplementationGuidelines.pdf
- http://www.nrsweb.org/docs/09a-ProposedChangesPY2006.doc
- http://www.nrsweb.org/docs/dataquality.pdf

Copies of the existing ABE ISTAR system can be found at:

- http://www.doe.in.gov/adulted/

3) Experience and Methodology

Detail your experience in developing and customizing applications. Provide resumes of staff that will be working on this project. Discuss the methodology you use for application development and customization; include roles, responsibilities, activities and tasks.

4) Change Control Process

Describe your change control process and include any forms used in that process.

5) Maintenance

Maintenance includes fixes and enhancements to the software. Describe how maintenance will be applied; service pack or new release of the software.

6) Cost:

A. Software and Hardware Maintenance and Support for all existing components:

- InTERS Desktop Software – Visual Basic .NET Software
- Teacher Enrollment Website
- Auto Update Web Service
- Universal Import Utility
- Federal Report Web Client/Server Software
- InTERS Synchronize Client/Server Software
- Central Transfer Server Data Warehouse
- Remote Desktop Support Solution
- Help Desk Support Site
- Third Line Technical Support
- Training of DWD Staff

DESCRIPTION	PRICE
1) Maintenance and support includes: a) Software upgrades /enhancements / fixes b) Technical Support: 1) 24/7 Technical Support to be done via telephone and/or on-line c) Hosting fees	
EXISTING COMPONENTS MAINTENANCE/SUPPORT SUBTOTAL	

B. New Development:

DESCRIPTION	PRICE
1) InTERS Web Client: a) Application Development b) Technical Assistance c) Data Conversion d) Installation e) Training f) Annual Maintenance (TOTAL FOR THIS COMPONENT)	
2) Web Import for Local Student Management Systems: a) Application Development b) Technical Assistance c) Data Conversion d) Installation e) Training f) Annual Maintenance (TOTAL FOR THIS COMPONENT)	

B. New Development (CONT.):

DESCRIPTION	PRICE
3) Central Server Integration with DOE (Dept. of Education) Databases: a) Application Development b) Technical Assistance c) Data Conversion d) Installation e) Training f) Annual Maintenance (TOTAL FOR THIS COMPONENT)	
4) Postsecondary Web Client: a) Application Development b) Technical Assistance c) Data Conversion d) Installation e) Training f) Annual Maintenance (TOTAL FOR THIS COMPONENT)	

B. New Development (CONT.):

DESCRIPTION	PRICE
5) InTERS Integration with Adult Basic Education Federal Data Reporting: a) Application Development b) Technical Assistance c) Data Conversion d) Installation e) Training f) Annual Maintenance (TOTAL FOR THIS COMPONENT)	
NEW DEVELOPMENT COMPONENTS SUBTOTAL	

GRAND TOTAL (for Maintenance & Support of all Existing Components and New Development Components)	

7) List all the personnel resources you will use to develop, customize and maintain the applications, and provide the hourly rate for these resources.

DESCRIPTION	HOURLY RATE

8) Provide Annual Software and Hardware Maintenance and Support costs for all InTERS components for potential contract renewal years 2, 3 and 4:

DESCRIPTION	PRICE
1) Maintenance & Support Costs for renewal Year 2:	
2) Maintenance & Support Costs for renewal Year 3:	
3) Maintenance & Support Costs for renewal Year 4:	

EXHIBIT A

InTERS Intergration with Adult Basic Education Federal Data Reporting
Additional points for data system

- If supplied, a SSN will be used to search for an existing student in the system. If the SSN is not valid (incomplete) or not entered the last name and date of birth will be used to search for an existing student in the system. If one or more matches are found a data grid will display the results. The user may select 'Display' to see the student's data. The user can view this information to determine if this is the same individual they are attempting to enter. If it is they have the opportunity to update and save the student into their system or cancel if that is not the student they wish to enter.
- If a test is a TABE test – a version of the test must be selected.
- Test scores are validated based on the type of test.
- In the Local Test History – Only a user with an Director Access level can exclude a test.
- A student must have a pre-test before a post test can be entered.
- EFL is calculated on all tests that have been entered.
- On the Attendance Enter tab active students (no exit date) are shown first, and students who have exited are shown at the bottom.

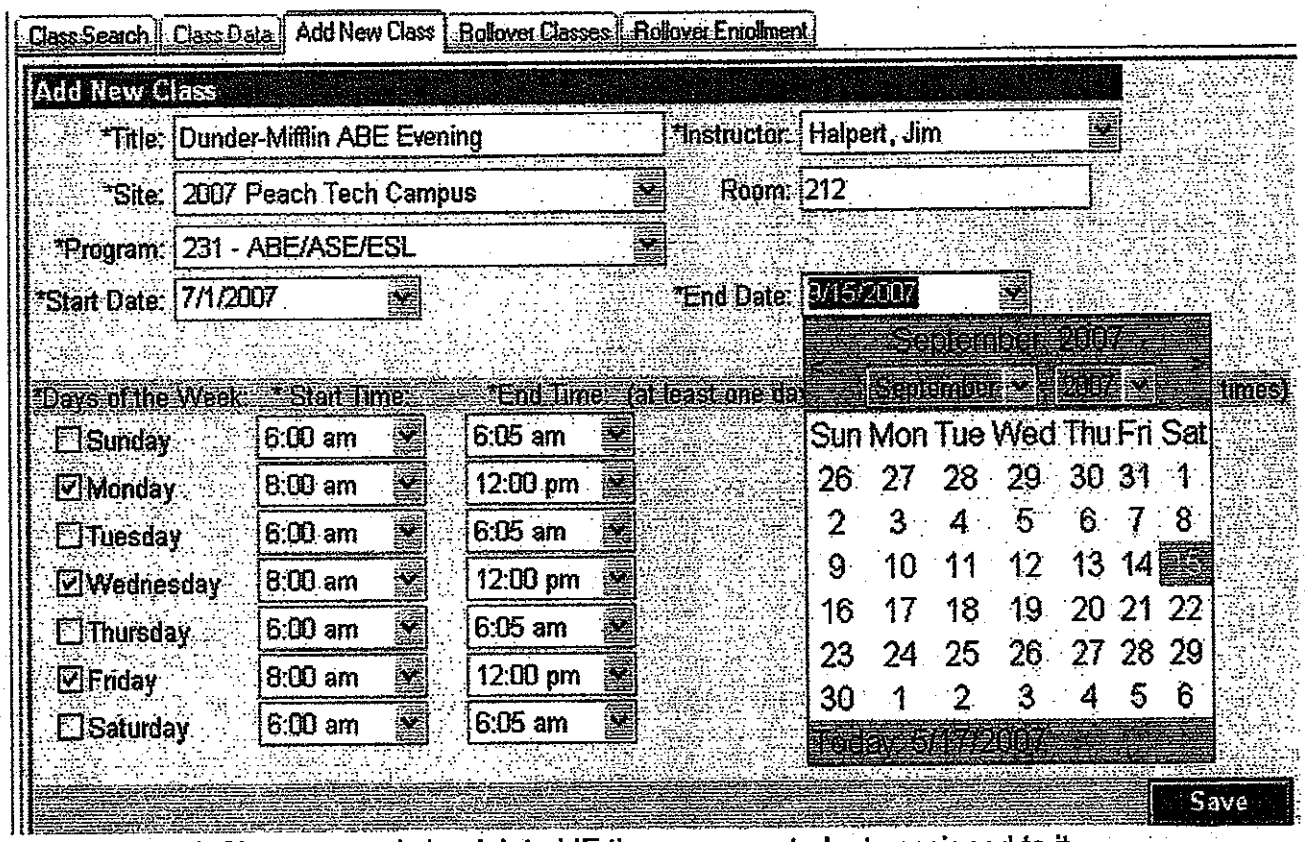
- Import Scanned TABE Test Scores

- local users are restricted to inputting, viewing, and printing data for their respective organization only, while OAE may view and print information for all.
- Checkboxes can be selected with the space bar; using the space bar again un-checks the box.
- When performing searches, a *'wildcard'* search may be performed by selecting a box next to any field, leaving the text box for the field blank, and clicking **Search**. This will return a list of all data for a category (staff, site, class, etc.) for the fiscal year for the program.
- Current Fiscal Year Screens are one color and past and future Fiscal Year screens are in another color.
- Rollover function allows for picking sites, classes, teachers, etc. to rollover.

- The Staff Positions tab is used for entering data for the NRS Table 7 report: Adult Education Personnel by Function and Job Status (Fig 4.5). The instructions are provided on the Staff Positions page as follows:

- Enter the number of full time and part time POSITIONS *(not the number of people who filled these positions)* paid for out of Federal, State, and/or Local education funds, as well as volunteers who are not paid but served in the program.

- Class set-up above includes the selection boxes for days and times.



- A Class may only be deleted IF there are no students assigned to it.
- The Add New Student function will perform a match function. If a student attends more than one location or program, there will be a separate record (but same student ID) for each.
- Program will search the database (*all sites and fiscal years*) for a match based on the SSN *OR* the Last Name and Date of Birth combination.

- Keep student records confidential (box is unchecked, by default): This box should be checked if the student checks the corresponding confidentiality box on the Intake Assessment Form. If this box is checked in the program, then the student's record will not be used in data matching (the exception being GED data matching IF the student has granted permission when they take the GED for their test results to be shared; see more on this below).

- Keep GED confidential(box is checked, by default): This box should be unchecked ONLY after you receive a copy of the student's signed consent form saying that their

GED test results can be shared. If this box remains checked in GALIS, then the student's GED results will not be displayed as a result of the data match conducted with the Indiana GED test database.

Example layout

Keep student records confidential	**Keep GED confidential**
☐ Ok to disclose	☐ Ok to disclose

All data match results will appear in program, including the GED match result

☑ Don't disclose	☐ Ok to disclose

*Student records will not be used for any data matching, with the exception of the GED data match. The GED data match will be conducted and the results will appear in program on both the **summary** and the **student detail** reports.*

☐ Ok to disclose	☑ Don't disclose

Student record will be used for all data matching; however, the student's GED test results will appear on only summary reports where the student name is not shown - the GED results will not appear on any student detail reports.

☑ Don't disclose	☑ Don't disclose

Student record will not be used for any data matching; student's GED test results will not be used in either summary or detail reports through data matching (only through manual reporting by your organization)

Allowed TABE Versions and Levels

TABE	***Version***
TABE L	9 + 10
TABE E	9 + 10
TABE M	9 + 10
TABE D	9 + 10
TABE A	9 + 10

TABE tests: **Within each subject, the TABE test must be the same level or HIGHER than the previous test, using this hierarchy: L, E, M, D and A.** For example, if a student is tested in Reading using M and in Math using D; then the next Reading test must be a M, D or A and the next Math test must be a D or A. **If the student is tested at the same level for a subject, then a different version must be used.** For example, if a student is tested in Language, TABE M, version 9 ... and the next Language test a student takes is also Language, TABE M, then version 10 or 10S must be used; the next test for the student cannot be M 9 or M 9S. However, if the student is tested at a different level then it is OK to use the same version since that is a different test: for example, the student can be tested using Language TABE M9 followed by Language TABE D9 or A9.

For TABE tests, program translates the scale scores for each exam taken by the student into NRS levels stipulated by the US Department of Education. Program translates a student's test score into a Grade Equivalent (GE) and an Education Functioning Level (EFL).

Each individual TABE test (Reading, Math, Language) that a student takes will give them an EFL and Grade Equivalent for each subject. Then the overall EFL will be equal to the lowest EFL of all tests in all subjects.

An exclusion may be necessary if incorrect information (date, score, etc.) is entered for a test and the information must be changed. Exclusions must have a **Reason** entered by the user (Fig 6.13). Check the **Exclude** box, enter a **Reason**, and click **Update** to exclude the test. Only users with Administrator privileges may exclude tests.

Example of Data Match Set-up

Data Match Chart

OBTAINED A GED

GED Goal exists	Goal Marked completed	Keep confidential box checked	GED Result
Yes	Yes	☑Yes	program record remains the same; not updated with match information
		☐No	program record remains the same; not updated with match information
Yes	No	☑Yes	The matched data will not show on the Goals page or on student-level reports The matched data will be included in totals on summary reports as an intended goal.
		☐No	**Completion Date** and **Match Result** fields are populated in program This will show on the Goals page and in all reports, even student-level reports as an intended goal
No	N/A	☑Yes	The matched data will not show on the Goals page or on student-level reports The matched data will be included in totals on summary reports, but only as an unintended goal
		☐No	program populates the **Set Date** (same date as completion date), **Completion Date**, **Type** (as unintended), and **Match Result** fields This will show on the Goals page and in all reports, even student-level reports as an unintended goal

- **Enrollment cannot be deleted if *Attendance* exists for the student in the class.**
- **Attendance Summary** – Displays a printable summary of a student's attendance.

*Name	Both in student listing and first student screen.	Data Entry should be First, Last, MI, and Maiden Name	No Restrictions or specific requirements. Will not be on any federal report but needs to be on local use reports.
*Address		Street address should be entered and zip code prompts city list or automatic fill.	No addresses outside Indiana should be allowed. Will not be on any federal report but needs to be on local use reports.
Phone		Space to enter primary and secondary phone, in addition to emergency phone number.	No restrictions. Will not be on any federal report but needs to be on local use reports.
E-mail		Space to enter one e-mail address. (would be good to automatically link)	No restrictions or specific requirements. Will not be on any federal report but needs to be on local use reports.
*Date of birth		Straight entry with slash (/) filled in automatically between day, month, and year.	Error message preventing entry for any age entered under 16 at the time of entry (should stop before moving to next field). Needs to be a field that can be sorted. Student should be reported in age at entry.
*Gender		M or F	Needs to be a field that can be sorted.
[2]*Ethnicity (new requirements)		Pull down menu	See March 2010 NRS Guidelines. Needs to be a field that can be sorted. (filtered?)
Functioning levels	Should show on first student screen after test scores are entered.		See latest NRS document and testing documentation for scale scores and levels. Levels automatically assigned by test score. Functioning level is determined by lowest pre-test level. Totals will be on table reports for federal reporting. Pre-test scores should be entered for all ABE/ESL/GED students. Entering ASC levels should be allowed manually.

Data elements and business rules State and Federal requirement unless otherwise noted

Data	Appearance	Data entry	Business rules
[1]Test scores and dates	Separate testing screen for all scores and showing level gains for each student.		Validation checks for accurate testing and dates. Pre-test dates must be on or after enrollment date and prior to separation date. See attachment (assessment policy) for post testing Error message prior to saving when incomplete data is entered.
Program Type		No data entry	Tied to entry level. 6 ESL levels (ESL) 4 ABE levels (ABE) ASE levels are the two highest ABE levels and ASC levels combined. Table 3 of federal tables. Each student enrolled counted once for program.
Environment (Federal definition) Family literacy Workplace literacy Homeless Correctional Distance Education	Should show on first screen of student record.	Pull down menu of choices	Workplace Literacy- student must be entered as employed to be placed in Workplace literacy program. Should prevent entry of students not marked as employed. No other restrictions. Information on specific programs will show on federal tables and should be in a field that can be sorted.
Secondary status measures: Low income Displaced homemaker Single parent Displaced worker Learning disabled		Pull down menu	Will show on table 6 of federal tables. No restrictions. Should be in a field that can be sorted.

***Information required to save student record is marked with an asterisk throughout this document**

Data elements and business rules

Data	Appearance	Data entry	Business rules
*Enrollment Date	Should show on first student screen.	Pop-up calendar or entry with slash (/) filled in automatically between day, month, and year.	Must be a date within the program year being entered.
Separation Date	Should show on first student screen.	Pop-up calendar and/or entry with slash (/) filled in automatically between day, month, and year.	Must be a date within the program year being entered and after enrollment date.
Attendance	Total attendance hours should show on the first student screen.	Pop-up calendar or entry with slash (/) filled in automatically between day, month, and year. Needs to allow attendance to be entered daily or weekly by course. Attendance will include entering course dates. Once a course has attendance entered the student list should be available to add attendance on an ongoing basis. You need to be able to enter daily attendance for the class before being required to save the record.	Course dates must end during the term assigned for the course. January 31st for fall and June 30th for spring. Courses may start early but must end prior to next term start date. Should allow for entry of student attendance in class without separate registration. Entering attendance should populate a course roster. Must not allow for entering more hours than the course is scheduled to meet daily or in total. Should not allow attendance to be entered for a student unless required student demographics and biographical information is entered. Students in ABE or ESL are counted as registered when any attendance is entered and enrolled after 12 hours of attendance. Students in ASC are enrolled after 6 hours of attendance.
SSN	All but last 4 numbers should not show on screen but will need to show on error report.		The State or local program database must be able to produce a report to identify students with missing, erroneous, or duplicate Social Security numbers. SSN's will be used for data matching.

Data elements and business rules

Data	Appearance	Data entry	Business rules
Goals		Automatically list "Improve Basic Skills" as a goal for every student. Allow for goals to be updated and list dates of updates. Pop-up calendar or entry with slash (/) filled in automatically between day, month, and year.	Do not allow change of goals dated after June 30th of any program year. Do not allow "enter employment" to be set as goal if student demographics mark student as employed. Do not allow "obtain h.s. credential" to be set as goal if student status is listed as high school diploma or GED. List of goals attached (federal goals). Separate section for primary and(optional) secondary goals. Goals set only show on table 5, 8, 9, and 10 of federal report if student is enrolled and has exit date entered. Will need local reports with options for sorting for tracking goals. Goals set must be on table 8 for (optional) Family Literacy participants, table 9 (optional) for Workplace Literacy, table 10 for Correctional, in addition to table 5.

Outcomes		Only allow "Retained Employment" outcome to be checked during third quarter after exit date. Outcomes only show on tables 5, 8, 9, and 10 of federal report if student is enrolled and has exit date entered. Will need local reports with options for sorting for tracking goals. Outcomes must be on (optional) table 8 for Family Literacy participants, (optional) table 9 for Workplace Literacy, table 10 for Correctional, in addition to table 4, 4b, and 5. For all measures, exit quarter is the quarter when the learner completes instruction or has not received instruction for 90 days and has no instruction scheduled. A job obtained while the student is enrolled can be counted but must be reported and measured during the first quarter after exiting the program if the student remains employed.

Data elements and business rules

Data	Appearance	Data entry	Business rules
Disability Info.		Check box for students with a disability. With second box for student with a learning disability.	Number of students with disabilities listed on table 6. Duplicate count of students with learning disability on table 6.
*Employment Status		Check box for Employed, Unemployed and seeking employment, and Not in the labor force.	Students must only be counted in one status and all students must have one of the three marked. Ties to table 5, 8, 9, and 10 employment goals (see goals). Will need local reports with options for sorting for tracking goals.
Public Assistance Status		Check box for "Receiving or not receiving assistance".	Shows on table 6 and should be tied to secondary goal of "Reduction in receipt of public assistance".
Community Type Urban or Rural		Check box for Urban and Rural.	Living in Rural area will show on table 6 of federal reports.

Teacher SNP	Teacher set-up should rollover to next program year with ability to access previous years raw data and reports	Teacher set-up includes: salary and fringe information for each term and location assignment. Teacher ID should include address and SSN or SNP Designated as full-time, part-time, or volunteer.	Salary and fringe must be tied to each class and term for summer/fall/spring. Must have a report for state, listing class with hours and teacher costs per class by term, by reimbursement type. Need validation checks to prevent incomplete data. Should allow for multiple terms, locations, and program years Should allow for different salary and fringe rates within one teacher record. Teacher listed in course set-up must match with teacher set-up for term and location. Tied to table 7 in reports.
Education Status			N/A, High School Diploma, GED, and Currently enrolled 9-12. Separate box for marking eligible graduate. Only those students listed as N/A or eligible graduate are included in federal and state reports. An eligible graduate is "a high school graduate and has been determined to need basic skill development in English language arts or mathematics at or below the high school level."

Program year setup	Data entry will include only entering program year start date.		Start date can vary but other dates are fixed. 1st Quarter is July 1 to Sept. 31st, 2nd quarter is Oct. 1 to Dec. 31st, 3rd quarter is Jan. 1 to March 30th, and the 4th quarter is April 1 to June 30th. Program year must always end on or before June 30th.
Counselor Paraprofessional Local administrator State-level administrator (only entered at state level)		Should have pull down menu of selections for entry of staff other than teacher. Must include selection for full-time, part-time, or volunteer.	Tied to table 7 in reports.
Program set-up	Field for WIA title II funding and field for State funding.		State level only for a new program. Must enter program name, program number, program type, location, administrative contact, and contact number. Funding amounts and type (will show on table 14).
City		City and zip will need to be entered for all areas.	City should be automatically populated when zip is entered in any field throughout the database. When a zip code is valid for more than one city the choice should be given.
Course Set-up should rollover to next program year with ability to access previous years raw data and reports		Course set-up must include course number, course type, term, teacher, reimbursement type, location, dates, and times.	Course end dates cannot be outside of term. Teacher set-up must include location of course. Must allow for more than one teacher assigned per course with salary and fringe reports tied to number of hours taught. All reports need to be available by course to local programs.

			Local programs should not have access to course reports for other programs.
Exit date and separation reason		Pull down menu for separation reasons provided by federal guidelines	
[3]Achievement	Progress Status. Should show on first student screen.		Includes Completed, Advanced, Separated, and Progressing. See attached definitions.
Location Set-up should rollover to next program year with ability to access previous years raw data and reports		Local program should enter location name, address, contact name, phone number, and date opened (for new locations).	Site id must be assigned automatically and cannot be duplicated within the statewide or local system. All reports need to be available by location to local programs and to the state staff. Local programs should not have access to location reports for other programs.
Table 1 All tables include only those enrolled eligible students	Title "Participants by Entering Educational Functioning Level, Ethnicity, and Sex" See attached tables		Student ethnicity, gender, and entry level are aggregated in this table.
Table 2	Title "Participants by Age, Ethnicity, and Sex" See attached tables.	Student ethnicity, gender, and age by groups are aggregated on this table. Age should be based on age at entry. Total number of learners by age is reported using the following age categories: 16–18 years, 19–24 years, 25–44 years, 45–59 years, and 60 years and older.	

Table 3	Title "Participants by Program Type and Age" See attached tables		Student age at entry and program type (determined by entry level). ABE includes: ABE Beginning Literacy, ABE Beginning Basic, ABE Intermediate Low, and ABE Intermediate High. ASE includes: ABE Low, ABE High, ASC Low, and ASC High. ESL includes: ESL Beginning Literacy, ESL Low Beginning, ESL High Beginning, ESL Low Intermediate, ESL High Intermediate, and ESL Advanced.
Table 4	Title "Educational Gains and Attendance by Educational Functioning Level" See attached tables	Number in each educational functioning level must match with table 1. Number enrolled must match table 1, 2, and 3. Column *D* is the total number of learners who completed a level, including learners who left after completing and learners who remained enrolled and moved to one or more higher levels. Column *E* represents a subset of Column *D* (Number Completed Level) and is learners who completed a level and enrolled in one or more higher levels. Column *F* is students who left the program or received no services for 90 consecutive days and have no scheduled services. Column *D* + *F* + *G* should equal the total in Column *B*. Column *G* represents the number of learners still enrolled who are at the same educational level as when entering. Each row total in Column *H* is calculated by using the following formula: $H = \frac{ColumnD}{ColumnB}$ All data in table 4 column D and E (except ASE Low and ASE High) must be tied to post test scores. Only programs with ASC are allowed completions in ASE low without post test scores. All programs can have completions in ASE high without post test scores.	

Table 4b	Title "Educational Gains and Attendance for Pre- and Posttested Participants" See attached tables	Column D and E all rows except ASE Low and ASE High, must equal Column D and E on table 4. Include in this table only students who are both pre- and posttested. Column *D* is the total number of learners who completed a level, including learners who left after completing and learners who remained enrolled and moved to one or more higher levels. Column *E* represents a subset of Column *D* (Number Completed Level) and is learners who completed a level and enrolled in one or more higher levels. Column *F* is students who left the program or received no services for 90 consecutive days and have no scheduled services. Column *D* + *F* + *G* should equal the total in Column *B.* Column *G* represents the number of learners still enrolled who are at the same educational level as when they entered. Each row total in Column *H* is calculated using the following formula: $H = \frac{ColumnD}{ColumnB}$
Table 4c	Title "Educational Gains and Attendance for Participants in Distance Education" See attached tables	The same requirements as table 4 and 4b for only students marked as distance education students

[1]Testing scale score cutoffs.

Beginning ABE Literacy

Test Benchmark:
TABE (9–10) scale scores
(grade level 0–1.9):
Reading: 367 and below
Total Math: 313 and below
Language: 389 and below

CASAS scale scores:
Reading: 200 and below
Math: 200 and below
Writing: 200 and below

Beginning Basic Education

Test Benchmark:
TABE (9–10) scale scores
(grade level 2–3.9):
Reading: 368–460
Total Math: 314–441
Language: 390–490

CASAS scale scores:
Reading: 201–210
Math: 201–210
Writing: 201–225

Low Intermediate Basic Education

Test Benchmark:
TABE (9–10) scale scores
(grade level 4–5.9):
Reading: 461–517
Total Math: 442–505
Language: 491–523

CASAS scale scores:
Reading: 211–220
Math: 211–220
Writing: 226–242

High Intermediate Basic Education

Test Benchmark:
TABE (9–10) scale scores
(grade level 6–8.9):
Reading: 518–566
Total Math: 506–565
Language: 524–559

CASAS scale scores:
Reading: 221–235
Math: 221–235
Writing: 243–260

WorkKeys scale scores:
Reading for Information: 75–78
Writing: 75–77
Applied Mathematics: 75–77

Low Adult Secondary Education

Test Benchmark:
TABE (9–10): scale scores
(grade level 9–10.9):
Reading: 567–595
Total Math: 566–594
Language: 560–585

CASAS scale scores:
Reading: 236–245
Math: 236–245
Writing: 261–270

WorkKeys scale scores:
Reading for Information: 79–81
Writing: 78–85
Applied Mathematics: 78–81

High Adult Secondary Education

Test Benchmark:
TABE (9–10): scale scores
(grade level 11–12):
Reading: 596 and above
Total Math: 595 and above
Language: 586 and above

CASAS scale scores:
Reading: 246 and above
Math: 246 and above
Writing: 271 and above

WorkKeys scale scores:
Reading for Information: 82–90
Writing: 86–90
Applied Mathematics: 82–90

Beginning ESL Literacy

Test Benchmark:
CASAS scale scores:
Reading: 180 and below
Listening: 180 and below

TABE CLAS-E scale scores:*
Total Reading and Writing: 225-394
Total Listening and Speaking: 230-407

Low Beginning ESL

Test benchmark:
CASAS scale scores
Reading: 181–190
Listening: 181–190
Writing: 136–145

TABE CLAS-E scale scores:*
Total Reading and Writing: 395-441
Total Listening and Speaking: 408-449

High Beginning ESL

Test benchmark:
CASAS scale scores
Reading: 191–200
Listening: 191–200
Writing: 146–200

TABE CLAS-E scale scores:*
Total Reading and Writing: 442-482
Total Listening and Speaking: 450-485

Low Intermediate ESL

Test Benchmark:
CASAS scale scores:
Reading: 201–210
Listening: 201–210
Writing: 201–225

TABE CLAS-E scale scores:*
Total Reading and Writing: 483-514
Total Listening and Speaking: 486-525

High Intermediate ESL

Test Benchmark:
CASAS scale scores:
Reading: 211–220
Listening: 211–220
Writing: 226–242

TABE CLAS-E scale scores:*
Total Reading and Writing: 515-556
Total Listening and Speaking: 526-558

Advanced ESL

Test Benchmark:
CASAS scale scores:
Reading: 221–235
Listening: 221–235
Writing: 243–260

TABE CLAS-E scale scores:*
Total Reading and Writing: 557-600
Total Listening and Speaking: 559-600

[2]Federal changes to ethnicity reporting

Beginning July 1, 2010, reporting of race and ethnicity will change to permit a new category, two or more races, on Tables 1, 2, and 12. The new definition has been added and revised procedures for reporting of Hispanic ethnicity are explained.

Beginning July 1, 2010, programs are required to collect and report race/ethnicity data differently. When collecting data, they will first ask about a student's ethnicity (i.e., Hispanic/Latino or not) and then select one or more races with which the student identifies. Programs will then report data by counting students in only one of the following seven aggregate racial/ethnic categories beginning with program year 2010-11:

- **American Indian or Alaska Native**—A person having origins in any of the original peoples of North and South America (including Central America), and who maintains a tribal affiliation or community attachment.

- **Asian**—A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

- **Black or African American**—A person having origins in any of the Black racial groups of Africa.

- **Hispanic/Latino of any race**—A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term ``Spanish origin" can be used in addition to ``Hispanic/Latino or Latino."

- **Native Hawaiian or Other Pacific Islander**—A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

- **White**—A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

- **Two or more races**—A person having origins in two or more race categories and not Hispanic/Latino.

Students who identify themselves as Hispanic/Latino are reported only in that category.

[3]Definition for Completed, Advanced, Separated, and Progressing status.

- Completed is the total number of learners who completed a level, including learners who left after completing and learners who remained enrolled and moved to one or more higher levels.
- Advanced represents a subset of Number Completed Level and is learners who completed a level and enrolled in one or more higher levels.
- Separated is students who did not make a level gain and left the program or received no services for 90 consecutive days and have no scheduled services.
- Progressing represents the number of learners still enrolled who are at the same educational level as when entering. *This includes those Secondary credit students moving from Freshman to Sophomore or Junior to Senior.*

When marking specifically Completed or Separated entering an exit date is required.
No exit date is required for Advanced or Progressing.

***Completion of ASE low is based on post-testing for ABE low and obtaining sufficient credits to move from sophomore to junior status for ASC low students.**

***Completion of ASE high (ABE high and ASC high) level is based solely on attainment of a secondary credential or passing GED tests.**

*Advanced cannot be marked for those students initially leveled in the highest levels

Multiyear reporting for employment measures with data matching

Employment measures reported in Tables 5 and 5a follow a multiple year reporting procedure. A time lag in the availability of employment data from the UI data base used for data matching requires reporting of students who attended in different program years for entered and retained employment measures.

- **Reporting Entered Employment.** Data for students exiting in the Second, Third, and Fourth Quarters of a program year and the First Quarter of the next program year will all be reported under the next program year. For example, the data for a student who exits in October of 2007 (Second Quarter PY 2007) will be reported in the PY 2008 report (due December 2009).
- **Reporting Retained Employment.** Data for students exiting in the Fourth Quarter of the previous program year and the First, Second, and Third Quarters of the current program year will all be reported under the next program year. For example, the data for a student who exits in April of 2006 (Fourth Quarter PY 2005) will be reported in the PY 2007 report (due December 2008).

NRS Reporting for Students in Distance Education

- States will report all required NRS data elements on distance education students in all NRS tables, according to current requirements. States electing to develop proxy contact hours for students in distance education will report both proxy and actual contact hours in Table 4.
- States must report data on students in distance education separately in Table 4c, identical to NRS Table 4, and in Table 5a, identical to Table 5. Only students in distance education are to be reported in these new tables table and all contact hours (proxy and actual) are to be reported in Table 4c.

AD Hoc tables for program monitoring

Sample Tables for Examining Program Improvement and Program Effectiveness

Educational Advancement Information			
Initial Class Level	Number Recommended for Advancement	Percentage of Students Advancing by Level	Average Contact Hours Per Student Before Advancement
Beginning Literacy	21	12 %	61
Beginning ABE	41	17 %	48
Low Intermediate ABE	51	36 %	39
High Intermediate ABE	47	43 %	40
Low ASE	23	38 %	38
High ASE	12	60 %	50
All Levels	**195**	**26 %**	**46**

Educational Advancement by Program Area			
Program	Number Enrolled (all levels)	Number Recommended for Advancement	Percent
ABE	225	58	26 %
GED	265	84	32 %
ESL	197	33	17 %
Family Literacy	49	7	14 %
Workplace Literacy	86	13	15 %
All Programs	**822**	**195**	**24 %**

Educational Advancement by Class			
Class	Percent Advancing	Pretest Score Range	Average Contact Hours Per Student Before Advancement
Beginning Literacy Class 1	14%	162–204	60
Beginning ABE Class 1	17%	199–214	51
Beginning ABE Class 2	24%	201–212	59
Low Intermediate Class 1	22%	209–222	44
Low Intermediate Class 2	31%	212–219	39
High Intermediate Class 1	26%	219–233	42
All Classes	**22%**	**162–233**	**49**

Sample Tables for Examining Program Improvement and Program Effectiveness

Instructor (Class)	Low Intermediate Level				Instructor		Participated in Professional Development in Reading		Observed Using New Strategies	
Name	Pretest	Posttest	Gain	Hours Attended	Full time	Part time	Yes	No	Yes	No
Barbara Acosta (Class #1)					✓		✓		✓	
Angeles, January	212	220	+8	87						
Arrendondo, Myra	215	221	+6	90						
Cassat, Mary	214	218	+4	84						
Simone, Michael	216	225	+9	81						
Average	**213.8**	**218.4**	**+4.4**	**84.7**						
Voight, Janet	212	213	+1	84						
Woodruff, Darren	211	214	+2	93						
Average	**213.8**	**217.4**	**+4.2**	**86.3**						
Karen Hunt (Class #4)						✓		✓		
Feng Yu (Class #6)						✓	✓			✓
Braswell, James	215	215	—	78						
Carpenter, Daniel	215	221	+6	90						
Average	**214.5**	**217.7**	**+3.2**	**83**						
Jennifer Lewis (Class #7)					✓			✓		
Weidberg, Suzanne	213	219	+6	87						
Yoon, Kwang	213	218	+5	78						
Average	**213.3**	**217.1**	**+3.8**	**84.8**						
Arlinda Morris (Class #8)						✓		✓		
Busch, Melissa	216	218	+2	78						
Etheridge, Gretchen	218	219	+1	82						
Huang, Yun (Ellen)	213	214	+1	83						
Jones, Tarsha	211	211	—	72						
Millstone, Ken	216	216	—	75						
Paley, Belen	214	215	+1	78						
Rodriguez, Carlos	212	216	+4	81						
Spears, Eric	211	212	+1	84						
Woodford, Alix	214	217	+3	81						
Average	**213.9**	**215.3**	**+1.4**	**79.9**						